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TITLE : COMPOSITE ROLL FOR HOT ROLLING

ABSTRACT : PURPOSE: To obtain a composite roll for hot rolling having superior wear resistance and improved in heat crack resistance by constituting this composite roll of an outer layer material containing granular carbide and nongranular carbide in specific area ratio and having a matrix with specific hardness and of a core material made of steel.

CONSTITUTION: A composite roll for hot rolling is constituted of an outer layer material, which has a structure containing, by area ratio, 5-30% of high hardness granular carbide and $\geq 6\%$ of nongranular carbide and in which the hardness of the matrix is regulated to ≥ 550 Vickers hardness (Hv), and of a core material made of steel. It is preferable that the above outer layer has a chemical composition consisting of, by weight, 1.0-4.0% C, $\leq 3.0\%$ Si, $\leq 1.5\%$ Mn, 2-10% Cr, $\leq 9\%$ Mo, $\leq 20\%$ W, 2-15% V, $\leq 0.08\%$ P, $\leq 0.06\%$ S, ≥ 500 ppm B, and the balance Fe with impurity elements and further containing, if necessary, any of $\leq 5.0\%$ Ni, $\leq 5.0\%$ Co, and $\leq 5.0\%$ Nb.

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